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Executive Report
Final



Waukesha County, Wisconsin

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CONSULTANT REPORT

Waukesha County Executive Summary

Recommendation Overview

The following recommendations were established based on the data analysis, site visits, industry best practices and stakeholder input during the study process.

These recommendations can assist in ensuring the greatest return on investment by quantifying the best area within the system to invest to ensure reliable and sustainable service to the community. The study also strives to prolong the use of volunteer firefighters as long as possible while ensuring the departments are meeting the communities' growing demand. This study can also assist policy makers in establishing a desired level of service while understanding the investments that may need to be made to achieve that desired level of service.

Four prioritized high-level recommendations are offered for consideration. It should be understood that there are some commonalities and overlap in strategies if multiple strategies were adopted.

Overall Recommendations

- 1) Implementation of a County Wide Dispatch System
- 2) Regionalization of EMS
 - a. Establish and Implement Career Staffing Model
- 3) Functional consolidation
 - a. Training Division consolidation
 - b. Fire Prevention Division consolidation
- 4) Long Term Evaluation of Full Consolidation

Study Overview

In May of 2016, Waukesha County contracted with Fitch & Associates to objectively evaluate opportunities for shared services amongst participating fire departments within the county. Waukesha County provided the funding and support for the interested agencies to evaluate the current response model and seek sustainable efficiencies.

In October of 2016 Fitch & Associates conducted a two-day site visit. During that site visit all 12 participating fire departments were visited. Following the site visit a comprehensive information data request was sent to all participating fire departments. Initially, there was limited participation, as only two of the 12 participating departments completed and returned the information data requests.

Fitch & Associates utilizes a comprehensive data driven process in order to provide objective and best practice recommendations to clients. Data analyses are usually conducted using the computer aided dispatch (CAD) data from the dispatch center and the records management system (RMS) data from the fire departments. Given Fitch & Associates' experience and the number of participants in this study the CAD data was the most reliable and consistent source

of data to provide an objective analysis. There was some difficulty in obtaining the CAD data from the dispatch center that contributed to an extended study period.

Once the CAD data was obtained, comprehensive data based quantitative and geospatial analyses were utilized to objectively evaluate the 2016 demand for services by type and severity. The County staff assembled a steering committee to work with Fitch & Associates on the remainder of the shared service study. The steering committee was structured to include participating fire department chiefs, municipal managers/administrators, elected officials and citizens. Following the data analysis Fitch & Associates conducted a site visit to review the data with the steering committee in July of 2017.

During the July 2017 site visit the steering committee attendance consisted of one county staff, four of the participating fire chiefs and one citizen. Fitch & Associates was given feedback from some of the participating fire departments that the request for agency information was too intensive to complete. The steering committee also gave feedback that the study should be broken up into four areas/clusters and that data from those agencies not participating should not be included (Brookfield New Berlin, and City of Waukesha). During the site visit Fitch & Associates was informed that five (Lake Country, Oconomowoc, Pewaukee, Ashhipun, and Dousman) of the 12 departments were no longer participating in the study and that four (Big Bend, Town of Waukesha, Vernon and Wales/Genesee) new departments were added to the study.

Following the July 2017 site visit the information data request was modified and significantly reduced. The data request was focused on the number of staff and basic operations of the department. This data request was sent out to all 12 participating fire departments. Ten of the 12 fire departments returned the modified data request with varying degrees of specificity. Follow up was conducted with the departments that had not submitted their data request with several emails and phone calls/voicemails over a 60-day period without success.

Fitch & Associates utilized the available data and information to provide an objective analysis of the participating departments, including the updated participants. The analysis and recommendations provided are based on the information available at the time the report was written. A final site visit was conducted in February of 2018 to meet with departments that were added to the study and provide a draft report presentation to the steering committee.

Operational Overview

Overall, units from the 12 agencies made 15,972 unit responses, and the total busy hours were 20,008 hours. The three busiest agencies with the most responses are: Lisbon Fire Department, Hartland Fire Department and Wales Genesee Fire Department. Each of the three agencies provided more than 1700 responses in 2016 and accounted for more than 44.3% of the total responses. The three agencies with the least responses were: North Prairie Fire Department, Big Bend Fire Department, and Merton Community Fire Department. The three agencies combined accounted for 9.2% of the total responses.

Table 1: Number of Incidents by Jurisdiction

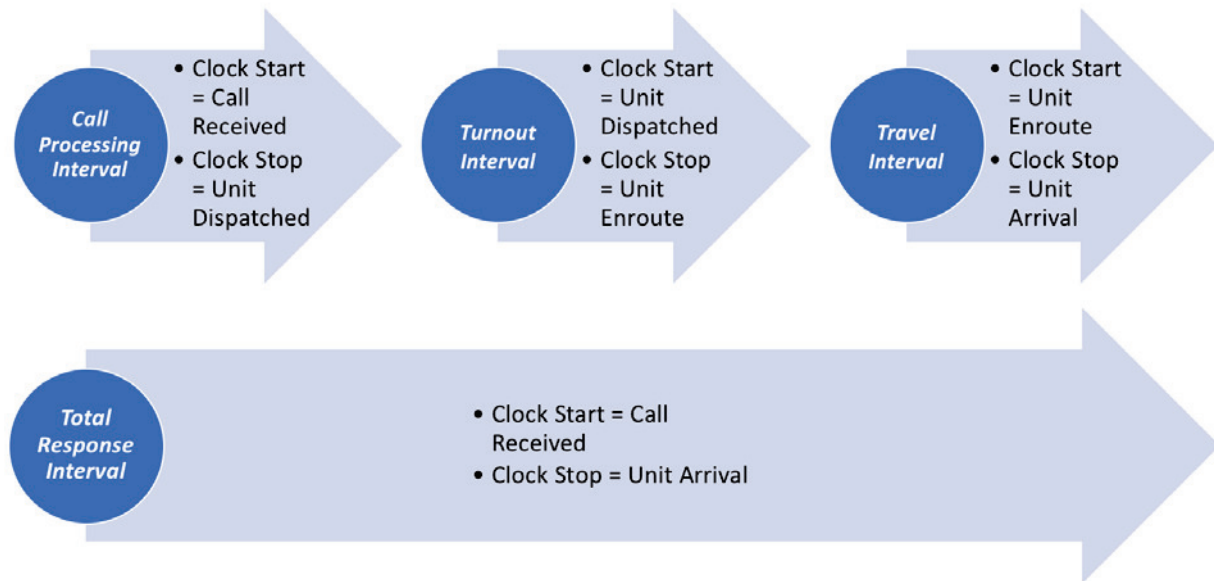
Jurisdiction	Number of Calls	Calls per Day	Call Percentage	Duration in Minutes
Delafield Town FD	367	1.0	6.5%	59.2
North Prairie FD	87	0.2	1.5%	72.7
Wales Genesee FD	478	1.3	8.4%	75.7
Area 1 Total	932	2.6	16.4%	68.9
Hartland FD	786	2.2	13.8%	67.4
Lisbon FD	858	2.4	15.1%	85.3
Merton Community FD	267	0.7	4.7%	89.8
Sussex FD	743	2.0	13.1%	57.2
Area 2 Total	2,654	7.3	46.7%	72.6
Okauchee FD	448	1.2	7.9%	40.1
Stone Bank FD	193	0.5	3.4%	76.3
Area 3 Total	641	1.8	11.3%	51.0
Big Bend FD	139	0.4	2.4%	70.2
Vernon FD	502	1.4	8.8%	59.8
Waukesha Town FD	414	1.1	7.3%	75.2
Area 4 Total	1,055	2.9	18.5%	67.2
Outside	407	1.1	7.2%	76.2
Total	5,689	15.6	100.0%	68.8

Performance measurement and benchmarking performance have been consistent themes in public administration for decades. Within fire and EMS services, the most often cited measure is that of response time.¹ Yet problems with “definitional ambiguity” often make comparisons between communities quite challenging.² Across the nation, agencies may utilize any number of response time definitions. In fact, the definition technically involves defining a time interval’s two endpoints – when the response time clock starts and when it stops. The Figure below highlights the generally utilized timestamps along the response time continuum along with the associated time intervals most often evaluated.

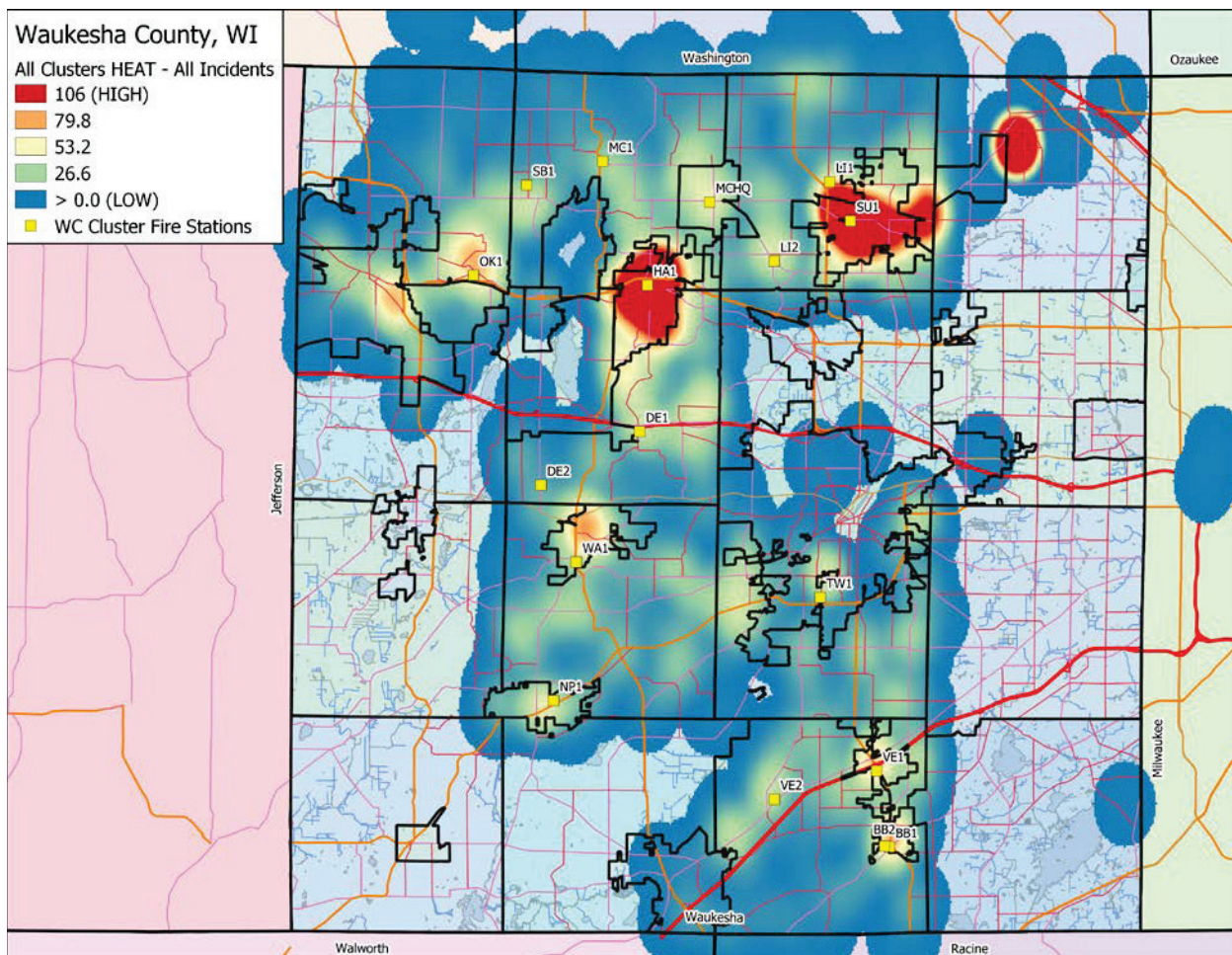
¹ Flynn, J. D. (2009). *Fire Service Performance Measures*. National Fire Protection Association. Quincy, MA:

² Moeller, B. (2001). *Measuring performance in the public sector: An examination of benchmarking paramedic response times*. (Doctor of Philosophy PhD), Florida Atlantic University.

Figure 1: Response Time Components & Intervals



The distribution of demand within Waukesha County is primarily focused in and around the identified development areas of the county that were studied. The data analysis shows that the geography is a limiting factor of collaboration in many areas. The workload in Area 2, being the highest of those studied, also shows the highest likelihood of concurrent calls. GIS analyses created a heat map to illustrate the relative distribution and concentration of requests for service in all four- areas. It is clear that Area 2 that includes Hartland, Lisbon, Merton, and Sussex has the highest concentrations.



Staffing, Recruitment, and Retention

Several staffing models are present within the participating agencies. It appears these staffing models have not provided the stability desired in order to meet the current and future demands of the community. Multiple agencies reported that staff members are working part-time for multiple departments. Almost all departments reported that firefighters do not live in the community they serve anymore, diminishing the ability to rely on those firefighters to respond from home thus relying on the minimal staffing at the fire station. The firefighters working at multiple departments also reduce the ability to rely on those firefighters to return for significant emergency events. Another challenge noted was that these firefighters working part-time at multiple departments eventually get hired full-time at a fire department and now

multiple departments lose a trained firefighter. Departments have also reported finding themselves in a battle between departments for staff based on their pay and benefits.

Recruitment and retention is a common theme in the fire service today. The ability to recruit and retain volunteer firefighters is a difficult task with no single answer to solve the problem. It appears that this same trend is present in Waukesha County. In order to stabilize the workforce coordinating pay rates and benefits between departments may benefit the region. Secondly it is likely that additional investment in career staffing will likely be necessary to provide a reliable response model to meet the current and future community demands for service. This investment in career staff has already been occurring in many of the departments.

Observations and Recommendations in Order of Priority

#1 Dispatch Process Best Practices Including County Wide Dispatching

In order for the system to adopt performance standards, and maybe more importantly, to be able to uniformly collect, measure, and manage performance and system growth, it is imperative that there is a single source for all dispatching and records management technology, protocols, and processes. The majority of substantive efforts related to growth management, performance management, regionalization, consolidation, and/or shared services are predicated on a unified communication center.

During the study's timeline, Western Lakes Fire District was created. The District consolidated Dousman and Oconomowoc Fire Districts. This merger created a fire dispatch challenge as the Oconomowoc Fire District was receiving its dispatch services from the City of Oconomowoc center, and Dousman from Waukesha County Communications. Through collaborative efforts, Waukesha County and the City of Oconomowoc created an agreement that allowed for Fire and EMS dispatch services to be provided by Waukesha County. This agreement required a partial percentage, based on the amount of workload being reassigned, of the one-time brick and mortar cost required of community to join the consolidated Waukesha County managed communications center. This model creates an opportunity for the remaining communities with disparate Fire and EMS dispatch centers to replicate making a similar transition and establishing the unified communications center.

The study's participating agencies can benefit by evaluating and sharing a goal of implementing industry best practices in regard to records management and dispatching processes. The data in this report was analyzed prior to pre-alerting; today the dispatch and turnout times may vary from the 2016 data. Waukesha County is moving towards automated alerting which will likely improve dispatch processing times. It may be prudent to parse call-processing performance and create performance standards based on call priority. Rather than creating one call processing performance standard, parsing the calls for service based on acuity or severity would be appropriate to ensure that emphasis is placed on the high acuity calls. Further, it would be encouraged to consider relaxing the current standards for the low acuity calls where response time is less important. As an example you may set a higher performance standard for

cardiac arrest patients while relaxing the dispatch performance standard for low acuity fall patients.

Fire departments within the county should collaborate with the dispatch center to establish desired performance and outcomes, and the requisite data points to capture. In this manner, a uniform system of quality data is available to assist in objective based decision making for a sustainable future. Greater investment in emergency services may require greater transparency and accountability to ensure sustainability and maximize return on investments.

A third party operational evaluation of the dispatch center may be prudent. This operational evaluation could evaluate the current performance, staffing and scheduling practices, and processes and technology used in comparison to the industry best practices. The evaluation should solicit input from stakeholders and provide recommendations that all stakeholders can rally around to implement.

#2 Regionalize EMS with Career Staff

Regionalize the EMS system by area using career cross trained Firefighter/Paramedics or EMTs. This investment in the system will likely prolong the viability of the volunteer fire system within these areas. This could realign the reliance on volunteers to being used when there is a need for additional staff on critical medical calls and fire responses. This decreased burden on the volunteers saves their engagement to those calls where their assistance is necessary to accomplish the critical tasks while leaving the less critical emergencies to career staff. For those volunteers that have limited availability, they could decrease their EMS certification level to Emergency Medical Responder (EMR) which decreases their continuing education requirements. Many of the areas studied have varying levels of EMS service to their community. Common service levels, dispatching, communications, and records management would need to be adopted in an area in order to successfully regionalize EMS.

Emergency medical calls are the largest share of the emergency call volume. The demand for emergency medical calls for service continue to increase while the fire demand stays stable or only increases slightly. This trend it is anticipated to continue into the foreseeable future. This regionalization of EMS would increase the reliability of response by utilizing career staffing. Regionalization would also standardize the fees for service in the area. There may also be an opportunity to right size the EMS fleet if stations were staffed as multiple calls would be handled by staffed stations in the area, rather than relying on volunteers to respond to the station to pick up the ambulance. The regionalization also allows for pooling of reserve ambulances.

It is recommended that the EMS regionalization is first implemented in Area 2 and then evaluated in other areas. Area 2 has the highest demand for service, which would provide the best proof of concept. This area already has current formal and informal collaboration creating a culture that is likely to embrace the regionalization. Efficiency is found in reducing the duplication of coverage areas as well as securing paid staffing that is able to respond immediately.

Area 2 Case Study

The demand in Area 2 would likely require at least 2 stations to be staffed with a minimum of 2 Firefighter/Paramedics or EMTs 24/7. A third ambulance would need to be staffed during the peak demand time of the day from 8am until 8pm seven days a week. This third ambulance would assist in handling the concurrent call volume that is experienced in Area 2 ensuring a reliable response system.

For example, Area 2 would have the ability to reduce the number of fire stations and ambulances by 50% half while ensuring the community receives the same level of service as today. By investing in career staff at three fire stations the number of fire stations could be reduced to three and the number of ambulances could be reduced to five while providing similar or improved response experience to the community. The reduction in capital expenditures may help in offsetting some of the increased operational costs of staffing fire stations with career staff. The addition of career staff can ensure a more reliable response model than the current volunteer model while keeping the volunteer staff available for critical and significant events that take additional staff to mitigate.

In order to implement a career cross-trained staff model for Area 2 would require at least 16 career staff. The cost for this program would be between \$907,536 - \$1,706,992 based on the 2017 Wisconsin Fire Chief salary survey firefighter range and Lisbon Fire Department's benefit package. Policy makers may want to determine a salary range based on the tolerance for turnover and experience in these positions.

Note that this model does not account for the backfilling of vacation or sick time that can likely be covered with minimal cost using existing administrative staff or qualified volunteer staff. This cost may be offset by using some of the current career staff assigned to the fire departments in Area 2, along with EMS revenue generated from the services being provided. If implemented, Area 2 departments may experience a reduced paid-on-call expenditure for EMS responses, as the on-duty career staff may handle low acuity emergencies.

This model also only accounts for the direct costs and does not account for any soft costs. The direct costs include annual salary and benefits such as retirement contribution, health insurance and dental insurance. Some of the soft costs that may need to be accounted for are administrative oversight such as payroll, human resources, supervision and information technology needs.

#3 Functional Consolidation

Functional consolidation is similar to the recommendation above to regionalize EMS but addresses other areas of the fire department. A functional consolidation may create a more efficient use of limited and specialized staff. This type of consolidation can reduce the burden on the volunteer firefighters, prolonging the viability of the system. A functional consolidation can also create more expertise; for example, a regionalized fire marshal's office can create expertise in fire plan reviews that may not currently exist, as it is only one of many job duties for a current staff member. Functional consolidation also allows for each department to keep their current identities while reaping the benefits of shared services.

3A - One area of functional consolidation that may be beneficial is the training division. There are many requirements and best practices that departments work to meet through training. The shared training allows for an increased level of compliance and documentation that is not likely to be met as individual departments with limited resources. A shared training division allows for the increase in expertise and consistency. Three of the four departments in Area 2 already share training through their own consortium. This has allowed firefighters to choose a training night that best works for them, rather than forcing all firefighters from a single department to attend one night of the week. The shared training division also creates consistency in emergency scene operations as everyone is trained to the same curriculum, creating an operational efficiency.

3B - A second functional consolidation option is the prevention division or fire marshal's office. The staff in this area need specialized training and skills that are much different than those of responding to emergencies. Most prevention divisions are responsible for fire permits, building plan reviews for compliance with the fire code, fire inspections and fire investigations. Regionalizing the prevention division may allow an area to create expertise by having dedicated prevention staff while offsetting some or all of the expenses using fees for services. The prevention division is an important part of the fire service as they can prevent emergency incidents from occurring through the use of fire permits, inspections and plan reviews. Many departments reported their community has plans for significant future development which may be an opportunity to regionalize a prevention division as there is a growing workload for a fire marshal during a community's development.

#4 Long-Term Evaluation of Consolidation

The participating agencies may benefit from evaluating the full consolidation by area. Many times, functional consolidation gets departments very close to full consolidation without losing their identity. Full consolidation is not always the best utilization of political capital as functional consolidation may provide the departments the majority of the efficiency and effectiveness of shared services. There may be a benefit of full consolidation for some areas by reducing capital costs and increasing the reliability of service by increasing capacity. Regionalization usually is the most efficient use of scarce resources such as personnel. The regionalization may assist in stabilizing the workforce long-term given the current job hopping and pay competition that is occurring between departments.

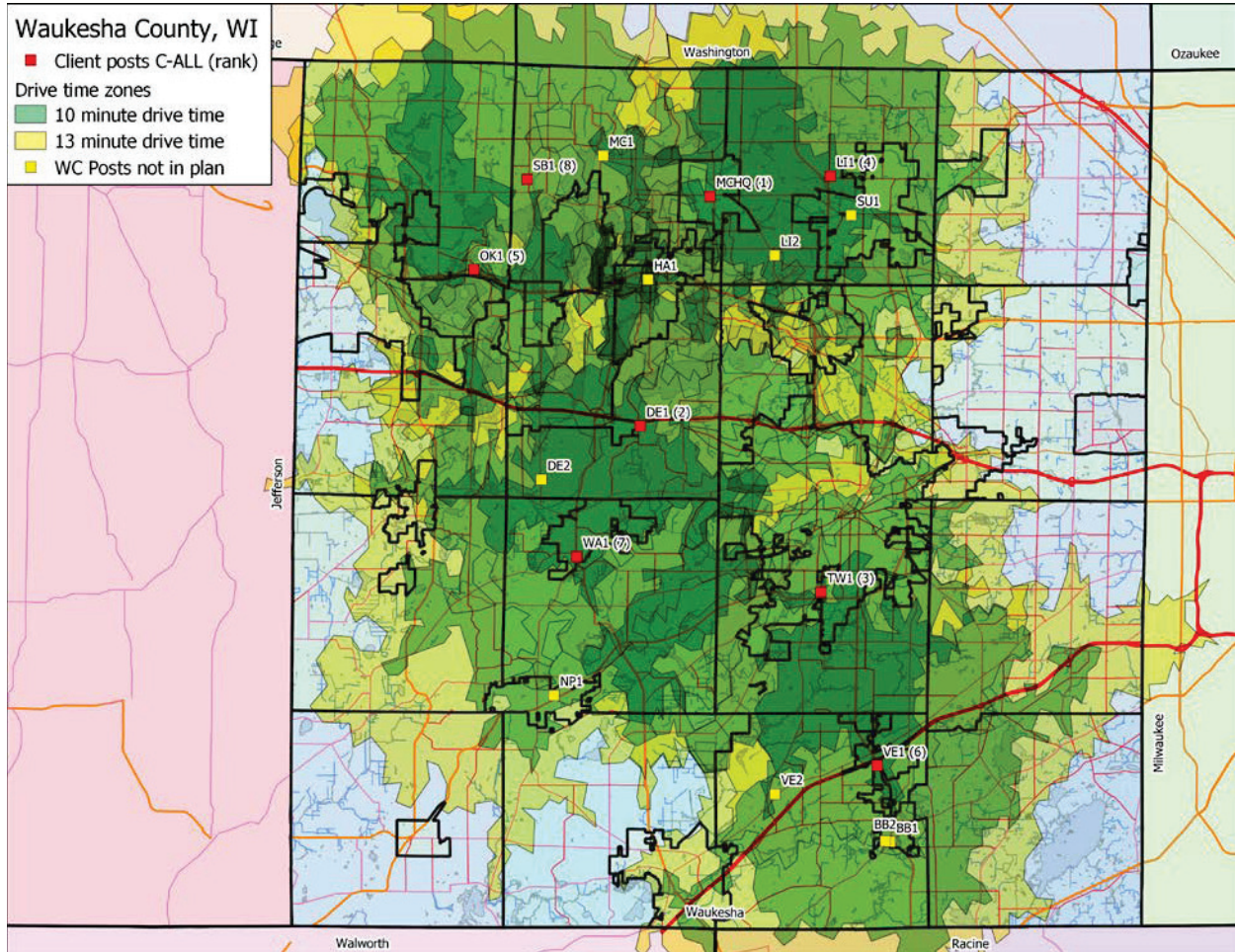
Within the current configuration of all study participants in the 4 areas, 16 stations are utilized to provide services. Similar to the explanation provided for the regionalization of EMS and/or staffing Area 2, the concepts can be applied to all participants.

Figure 2: All Participant Areas - Marginal Station Contribution for a 10-minute Urban/Suburban and 13-Minute Rural Travel Time

Rank	Station	Address	Class	Station Capture	Total Capture	Percent Capture
1	Merton #2	28343 Sussex Rd	U	1507	1507	29.34%
2	Delafield #1	W302N1208 Maple Avenue	U	807	2314	45.05%
3	Town of Waukesha	W250 S3567 Center Road	U	675	2989	58.20%
4	Lisbon #1	N72W24958 Good Hope Rd	U	549	3538	68.89%
5	Okauchee	W349 N5060 Shady Ln	U	427	3965	77.20%
6	Vernon #1	W233 S7475 Woodland Lane	U	329	4294	83.61%
7	Wales Genesee	600 S. Wales Road	U	247	4541	88.42%
8	Stone Bank	W335 N7107 Stone Bank Rd	U	126	4667	90.87%
9	Okauchee	W349 N5060 Shady Ln	R	69	4736	92.21%
10	Vernon #1	W233 S7475 Woodland Lane	R	47	4783	93.13%
11	Merton #2	28343 Sussex Rd	R	15	4798	93.42%
12	Wales Genesee	600 S. Wales Road	R	15	4813	93.71%
13	Lisbon #1	N72W24958 Good Hope Rd	R	3	4816	93.77%
14	Stone Bank	W335 N7107 Stone Bank Rd	R	1	4817	93.79%

GIS analyses were utilized to illustrate the findings above. In the mapping below, the green areas show the ability to cover the geographic territory within 10-minutes travel time and the yellow areas are within the 13-minute travel time.

Figure 3: All Participant Areas –GIS Response Polygons for 10-Minute Urban/Suburban and 13-Minute Rural Travel Times



In addition, for long term planning purposes, analyses were completed to determine optimized locations. Optimized locations would require considerable capital investment, as most stations would need to be relocated over time. However, by utilizing a system view of a consolidated area, services could be improved to 8-minute travel time with only 9 stations as opposed to the currently placed 8 stations for a 10-minute travel time. The optimized locations for a 10-minute travel time would only require 5 stations. GIS mapping for each are provided below for your reference.

Figure 4: All Participant Areas – Optimized Station Locations - GIS Response Polygons for 8-Minute Urban/Suburban and 13-Minute Rural Travel Times

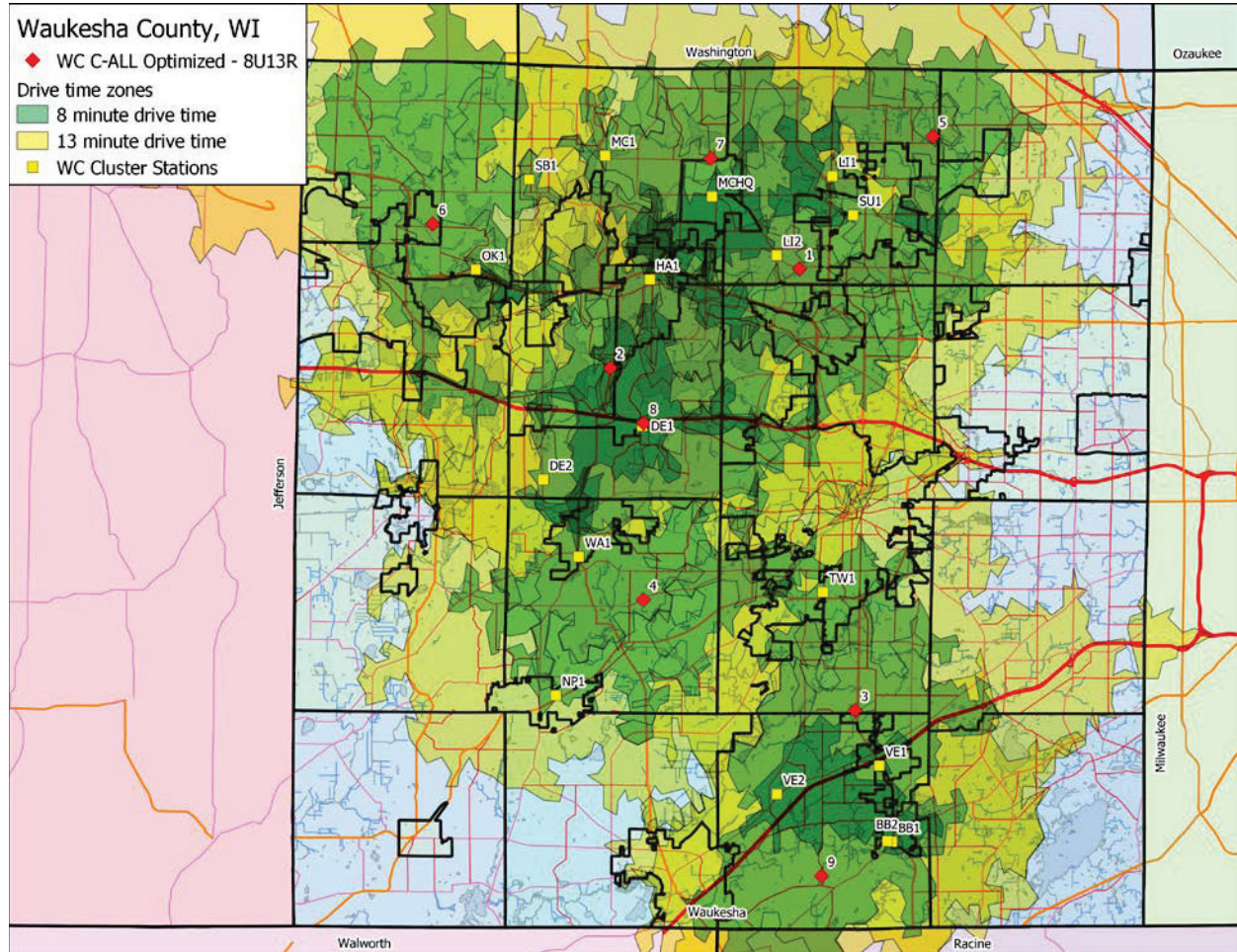
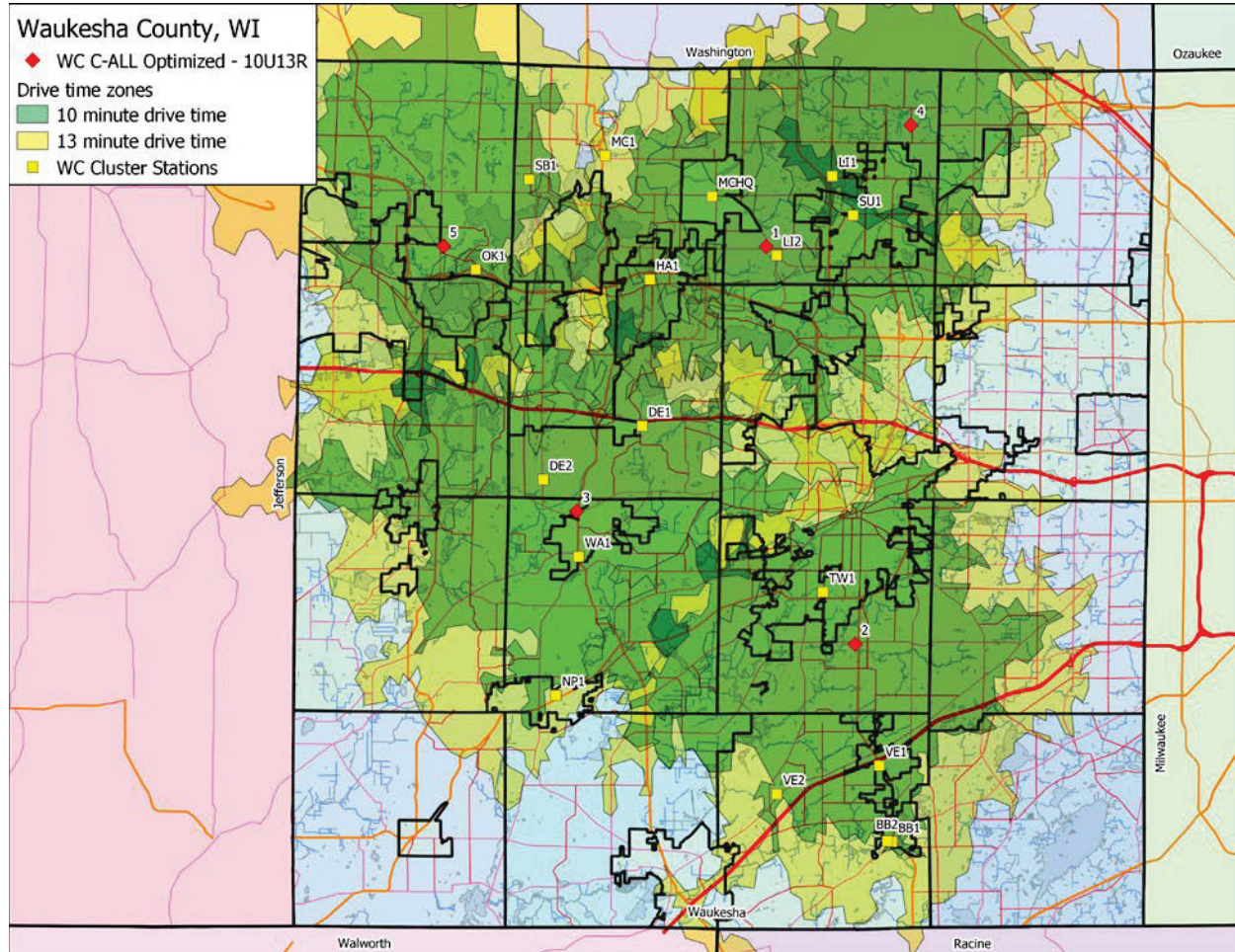


Figure 5: All Participant Areas –Optimized Station Locations - GIS Response Polygons for 10-Minute Urban/Suburban and 13-Minute Rural Travel Times

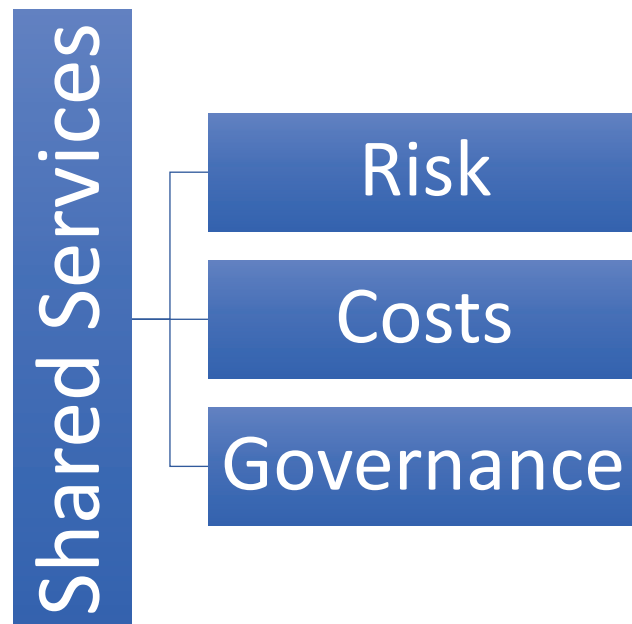


It should be recognized that there is already a culture of collaboration within the county. Much of the current collaboration is accomplished informally. There are already numerous fire departments in various shared service models within the county. The leadership of these departments are working together to ensure they can provide the best service possible with the resources they have. Some departments are providing training together, while others are assisting each other in providing a higher level of EMS service to their community. All of these efforts show a commitment to providing the best service possible. It is recommended that these efforts are encouraged and incentivized when possible. Some of these examples may be replicated in other areas across the county.

When implementing shared services, it is important to address the risk, cost, and governance. The risk includes accounting for community risk being covered, current and future demand for services and the level of service expected. The cost includes both revenues and expenses as well as the source of revenue and expenses. In the case of the participating agencies, most are transporting EMS agencies which can help to diversify the revenue away from a solely tax-

based agency. Lastly the governance can identify representation of stakeholders, decision making authority and the process to enter into and exit from the shared services model.

Figure 6: Shared Services Model



Finally, the following broad observations and recommendations were identified in each of the four areas.

Area 1 Recommendations

- 1) Maintain current service level and consolidate the number of stations
- 2) Eliminate duplicative vehicles
- 3) share staff for cost and operational efficiency

Area 2 Recommendations

- 1) 3 departments share training currently. Continuation of functional consolidation will serve the region well
- 2) Maintain the current service level and consolidate the number of stations
- 3) Right size fleet with functional consolidation
- 4) Share staff for cost and operational efficiency

Area 3 Recommendations

- 1) Stone Bank covers Okauchee during the weekday daytime hours. Continuation will ensure a reliable response to Okauchee
- 2) Lowest demand for service in areas studied leaving limited collaboration opportunity
- 3) Limited ability to share services based on geographical limitations

Area 4 Recommendations

- 1) Opportunity may exist to maintain current service level and consolidate the number of stations
- 2) Eliminate duplicate vehicles